

**In the Specification:**

Please amend the specification as shown:

Please delete the paragraph on page 10, lines 30-31, and replace it with the following paragraph:

Fig. 3 shows a PCR analysis and verification of pBac {L1-PUBDsRed1-L2-3xP3-ECFP-R1} vector integration in line F34 and L2-3xP3-ECFP-R1 remobilization in line F34-1M **(SEQ ID NOS 13-22, respectively in order of appearance)**;

Please delete the paragraph on page 11, lines 5-6, and replace it with the following paragraph:

Fig. 9 shows molecular analysis of RMCE acceptor and RMCE donor transgenic lines and PCR analysis of transgene mobilization **(SEQ ID NOS 17, and 23-24, respectively in order of appearance)**;

Please delete the paragraph on page 11, line 8, and replace it with the following paragraph:

Fig. 11 shows the approximate sequence of the vector shown in Fig. 2 **(SEQ ID NO: 1)**;

Please delete the paragraph on page 11, line 9, and replace it with the following paragraph:

Fig. 12 shows the approximate sequence of the vector shown in Fig. 8 **(SEQ ID NO: 2)**; and

Please delete the paragraph on page 11, line 10, and replace it with the following paragraph:

Fig. 13 shows the approximate sequence of the vector shown in Fig. 10 (SEQ ID NO: 3).

Please delete the paragraph on page 15, lines 3-7, and replace it with the following paragraph:

The FRT sequence (90bp) is prepared by *Sall*-*Asp*718 restriction of pSL>AB> and cloned into the plasmid pSLfa1180fa previously digested with *Xho*I-*Asp*718. The FRT sequence corresponds to the substrate of the FLP recombinase:

TTGAAGTTCCTATTCCGAAGTTCCTATTCTCTAGAAAGTATAGGAACTTCAGAGCGCTTT  
TGAAGCT (SEQ ID NO: 4)

Please delete the paragraph on page 15, lines 12-16, and replace it with the following paragraph:

The PCR amplification product of the FRT sequence (template: pSL>AB>; Primers: CH\_FRT\_F 5'-GAGCTTAAGGGTACCCGGGGATCTTG -3' (SEQ ID NO: 5) and CH\_FRT\_R 5'-GACTAGTCGATATCTAGGGCCGCCTAGCTTC-3' (SEQ ID NO: 6)) is digested with *Bfr*I-*Spe*I and cloned into pSL-3xP3-DsRed-FRT previously digested with *Bfr*I-*Spe*I. Both FRT sequences are oriented in opposite directions.

Please delete the paragraph on page 18, line 32, to page 19, line 4, and replace it with the following paragraph:

A 90 bp *Sall*-*Asp*718 fragment from the plasmid pSL>AB> containing the FRT sequence was cloned into the plasmid pSL-3xP3-ECFPaf (see Patent Cooperation Treaty PCT WO 01/12667, the contents of which are incorporated herein by reference) previously digested with *Sall*-*Asp*718. The FRT sequence corresponds to the substrate of the FLP

recombinase:

TTGAAGTTCCTATTCCGAAGTTCCTATTCTCTAGAAAGTATAGGAACTTCAGAGCGCTTT  
TGAAGCT (SEQ ID NO: 4)

Please delete the paragraph on page 19, lines 9-25, and replace it with the following paragraph:

The plasmid pBac {3xP3-FRT-ECFPaf} was digested with *Ascl*-*Bgl*II, and the following sequences were cloned into the linearized vector:

i.) the *Ascl*-*Asp*718 cut PCR amplification product of the 1.6 kb *Hind*III genomic *linotte* fragment. As a template, genomic DNA of *Drosophila melanogaster*, strain *OregonR*, was chosen and as primers:

CH\_lfoFwd (5'-TTGGCGCGCCAAAAGCTTCTGTCTCTCTTTCTG-3') (SEQ ID NO: 7) and

CH\_lfoRev (5'-CGGGGTACCCCAAGCTTATTAGAGTAGTATTCTTC-3') (SEQ ID NO: 8)

and

ii. ) the *Asp*718-*Bgl*II cut PCR amplification product of the FRT3 sequence (mutagenic PCR). As a template, the plasmid pSL>AB> was chosen and as primers:

CH\_F3Fwd (5'-TTGGCGCGCCAAGGGGTACCCGGGGATCTTG-3') (SEQ ID NO: 9) and

and

CH\_F3Rev (5'-CCGCTCGAGCGGAAGATCTGAAGTTCCTATACTATTTGAAGAATAG-3')

(SEQ ID NO: 10).

The FRT3 sequence corresponds to the F3 sequence (European Patent No. EP 0 939 120

A1): TTGAAGTTCCTATTCCGAAGTTCCTATTCTTtAaAtGTATAGGAACTTCAGAGCGC

(SEQ ID NO: 11)

The diagram of this final RMCE acceptor vector is shown in Fig. 8.

Please delete the paragraph on page 22, lines 4-15, and replace it with the following paragraph:

a) Genomic integration site of donor and acceptor transgenes

The exchange of eye fluorescence from ECFP to EYFP suggests that the donor cassette (carrying the promoter-free *eyfp* gene) integrated at the locus of the acceptor transgene (providing the 3xP3 promoter). Therefore, the genomic integration sites of the acceptor transgene in the acceptor line and of the donor transgene in the corresponding donor line should be identical. To identify genomic integration sites, inverse PCR experiments were carried out for acceptor and donor *Drosophila* lines. To recover DNA sequences flanking *piggyBac* insertions, inverse PCR was performed. The purified fragments were directly sequenced for the 5' junction with primer CH\_PLSeq 5'-CGGCGACTGAGATGTCC-3' (**SEQ ID NO: 12**). The obtained sequences were used in BLAST searches against the *Drosophila* Genome Sequence Database. For the 5' junction, genomic DNA sequence identity could be confirmed for three acceptor/donor pairs (Table 2).